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# An Inaugural Essay on Croup or Cynanche Trachealis

# Introduction

There is no disease, with which the human system is afflicted, that has more frequently awakened the attention of modern physicians, than Croup or Cynanche Trachealis. That a disease, so strongly marked in its features, should have eluded particular notice, until the middle of the last century, is a matter of no little astonishment.— Drs Home of Edinburgh has long had the honor, of being the first to investigate the nature of this alarming disease.— M. Turine has informed us, however, that "Baillou est le premier qui l'ait designee d'une precise et caractaretique!" Since that period, Millar, Etmuller, Starr, Michalis, Eller, Cullen, Frank, Denwin, Des Essarts, Turine, Albert, Rush, Acher, Cheyne, and others, have each deemed it worthy his particular deliberation; though each have thought proper to christen it with a distinct and favourite appellation. After having passed under the consideration of such minds, it may be considered presumption in me, to attempt adding a ~~a~~ glimmering ray to the vast body

of light which has already fallen on this this interesting subject. — In inaugural essays it cannot, indeed, be expected, that an inexperienced student, can adduce much that is either new, or interesting. — He might, it is true, strike into an untracked path, by making an excursion in the fields of fancy and speculation, but such a course, I feel convinced, would not be considered, by the enlightened professors of this university as either an evidence of judgement, solid medical acquirement, or accuracy of observation. — Under these impressions I have chosen a practical subject, and in doing so, I have selected the disease with which I am most familiar, and which has most frequently presented itself in practice to me. —

With unaffected deffidence, I submit my humble labours for examination, and can only regret, that it is not more worthy the distinguished university in which I have had the honor of being educated. —

Croup, selects for its "local habitation" either the larynx, or trachea; and is generally defined, to be either a spasmodic or inflammatory affection of one of those organs.

It sometimes commences with great violence, is rapid in its progress, its remissions short, its paroxysms rapidly succeed each other, and death soon terminates the painful sufferings of its victim, if its course be not speedily arrested by the hand of art.— At other times, its march, is slow, its symtoms equivocal, its remissions longer, and death when it does take place, is much more tardy and insidious.

This variety in the symtoms of the disease, has been hitherto supposed to depend on some peculiarity in the state of the system, at the time of attack.— M. Fivine of Geneva, has explained it differently, however, and I think, more satisfactorily.— He says that the larynx and trachea are endowed with different degrees of irritability, and hence infers, that diseased

affections of these organs, must be characterized by very opposite symptoms. — By thus attending to the external character of the disease, he was enabled to discover its precise location. I need not say, that in a practical point of view this knowledge is very interesting.

The ordinary symptoms of the croup are a hoarse cough, a sonorous and wheezing respiration, a full and frequent pulse, a swelling and discoloration of the face, and an oppression, which appears to be the effect of a sort of compression or contraction of the larynx. — These symptoms appear in paroxysms, and these paroxysms increase in frequency, in duration and in intensenes as the disease advances.

It commonly attacks in the night and during sleep. — It occasionally appears however, indifferently at all hours of the day. The interval, which occurs between the first paroxysms, frequently afford a complete remission, but by degrees the remissions become less sensible and at last scarcely perceptible.

One of the most prominent characteristics of this disease, is a peculiar alteration in the sound of the voice; which has been com-

pained, by turns, to the cry of a young cock, or of an irritated hen, and to the croaking of certain animals.

When respiration is very difficult, the pulse is hard, small, frequent, and sometimes intermittent; the heart is agitated with violence, and with irregular bounds; the carotid arteries beat with great force; the jugular veins are swelled and extended. — The face at first flushed, becomes by turns, pale livid, and bluish; the eyes seem to project in their orbits, a cold and clammy sweat covers the head, the patients strength is prostrated, and at one moment a frightful drowsiness steals over his senses, the next, he is awakened by the most painful sense of strangulation.

The true cause of this extraordinary difficulty of respiration is a spasm of the larynx; produced either by inflammation of the mucous membrane of that organ, or from effusion of coagulating lymph, on its internal surface. Sometimes this lymph, either by its quantity, consistence, or by the membranous form which it assumes, forms an obstruction to the passage of air, purely mechanical. — Such cases however

are very rare, as spasm alone, is the ordinary cause of difficult respiration.— This is not a vain hypothesis, since the worst sequel sinuses, in the worst forms of the disease, prove that it cannot so readily arise from any other cause.—

That there is a membrane formed in the trachea of croupal patients, is proved, by the most ample, and respectable testimonials.— M. Trousseau of Geneva, and M. Albert of Vienna, have each in the course of a long practice, made a vast number of dissections, and in a majority of cases have found this membranaceous substance. Drs. Rush, Chapman, Archer, with many other respectable physicians of our own country have also borne witness of its existence.— I am not prepared to explain, the peculiar kind of action, which takes place in the arteries of the trachea, to form this extraneous body.— Much ingenious speculation, has been urged in explanation of it, but none I think satisfactory.— In a practical point of view, however, it is of but little consequence, since it will afford the physician very little assistance in effecting a cure

The duration of this disease is very variable.— If it be attached at the commence-

ment, with suitable remedies, it commonly yields without much difficulty; but if it be abandoned to itself, or the physician be called in too late, it may either carry off the patient in a few hours, or it may be prolonged even to the tenth day. Examples of a longer duration are extremely rare.

Young children are commonly the subjects of the croup, because of the great predisposition at that age, to inflammatory catarrhs, and to eruptive affections; complaints with which this disease is so frequently complicated. — M. Albert has remarked that this disease, occurs rarely in the first months of life; very frequently from the first to the seventh year; less frequent from the seventh to twelfth and very seldom beyond the last age. — Even adults are not, however, ~~entirely exempt from it~~. — This author cites several examples of this kind. — The inflammatory Angina, according to him, is nothing more than croup, modified by force of inflammation, and by a change which takes place in the conditions of the organs. — Furthermore the croup of adults, however violent it may appear, is never so dangerous as in children. — To account

in which the author adduces the following reasons: the first is, that in adults the secretion of lymph is much less abundant; the second, that the irritability of the trachea is less; and the third, that the dimensions of the glottis and larynx are more considerable.—

This author has also observed that the croup more frequently attacks boys than girls, and hence infers, that at that period of life, the larynx and trachea are not of the same degree of developement in both sexes.—

Although I am not prepared to say Mr. Alberts speculations are correct, still I think they carry with them much plausibility, and may conduce perhaps to throw some light on the true character of this disease.

Temperature, seasons, climes, age, sex, and habitude of body, have all an influence in the production of croup.— Cold and humidity, conduce much to the developement of this disease.— It occurs most frequently in autumn, in the winter, and early in the spring, and commonly prevails in low countries, surrounded by mountains either in the vicinity of lakes, or large rivers.—

Croup is a very prevalent disease on our Atlantic coast, occasioned, no doubt, by the humidity which is constantly escaping from the ocean. Dr. Albert has justly considered Home to have fallen into a dreadful error, when he exclusively attributed its prevalence on the sea coast, to the irritating action of the saline particles which are diffused in the surrounding atmosphere.—

All physicians admit that children are disposed to the croup; and I have already given the opinion of the observing Albert, with regard to sex.—

There is a continued predisposition in some constitutions to croupal affections. While, however, I feel convinced of the existence of this constitutional peculiarity, I confess myself totally unable to throw the least light on its nature.—

To these general causes, which favour the production of croup, I will add some that are particular; such as sudden transitions from heat to cold, the injudicious custom which has for sometime existed, of clothing children too lightly, and of exposing their breasts and arms naked, together with damp rooms, and the

and the inspiration of strong and unbridled air passes. - Dr. Albert has seldom been seen it produced by the last cause. -

The croup is very often complicated with small pox, measles, scarlatina, angina; and in cases, some each of these complications an influence, which modifies its character and progress. - Although it occasionally appears with the first symptoms of the primary disease; yet it more generally manifests itself about the period of desiccation.

When complicated with measles, it shows itself at an early period of the disease, and commonly disappears, as soon as the eruption takes place. - There are many instances however in which croup has continued through out the whole period of this afflictive disease.

Dr. Albert has seen croup, united with the vaccine disease, though I have never heard of its appearing in this form in the United States. -

Having now closed, my description, of the history ~~and character~~ of this disease, I shall proceed to a more important point, viz. its Treatment.

In the incipient stage of this disease

emetics are indicated; and will in most instances effect a cure. — Sulph. of zinc, tart. emet. or a combination of Ipecac. and Calomel, are the articles ordinarily used for this purpose. — To derive proper advantage, from this remedy, it ought to operate four or five times. — "Happily (says Dr. Rush) "children are seldom injured by "a little excess in the operation of this class of "medicines. I have prevented the formation of this "disease many hundred times and frequently "in my own family, by means of this remedy."

After this disease is fully formed, blood letting, both general and local, is the first and most important remedy. — The quantity to be drawn must be left to the judgement and discretion of the practitioner. — Dr. Rush "drew "twelve ounces of blood at one bleeding, in one "day, from a son of Mr. John Caud, then in the "fourth year of his age. — Dr. Physick bled a "child of but three months old, three times in "one day. Life was saved in both these cases."

Although many eminent Physicians prefer small, but frequent, to copious Bloodletting, yet there are others equally distinguished, who bleed ad deliquium animi. — I think, however,

that the former practice is the safest; and so far as my limited experience has extended, I have found it very successful.

After the system has been reduced by bloodletting, it will be necessary to exhibit emetics, but at small doses, and at regular intervals.— They will have a powerful tendency to overcome spasm, as well to expel the false membrane or viscous matter from the canal of respiration.—

If these first means are not sufficient to arrest the progress of the disease, it will be necessary to have recourse to blisters, and rubifacients.— They may be applied either to the front or back of the neck, to the breast, or to the extremities, as circumstances may indicate. They act by producing a counter irritation on the surface of the body.

The tepid bath may be used with signal advantage during the first period of this disease.— This is a favourite remedy with the present professor of the institutes and practice of medecine; and I know from my own experience that it

produces the happiest effects.— It diminishes irritation, relaxes the spasms, and promotes a determination of the fluids to the surface.

The inspiration of the aqueous vapour which is exhaled from the bath, may act too as an emolient and efficacious dispelent of the viscous matter in the trachea.

M. Albert places great reliance, on the use of emolient fumigations.— So thoroughly convinced was he of its utility, that he constructed a machine to facilitate its application to the seat of the disease.—

In protracted cases Calomel purges have been used with advantage.—

There is another class of medecines strongly recommended.— At the head of these may be ranked the antispasmodics such as asafoetida— Sulphuric Ether— ol. succini, and aqua ammoniae.— When the patient is weak and delicate, or there is a disposition in the disease to assume a typhoid form, these remedies may be used with great success.—

Diaphoretics and expectorants may be sometimes exhibited as useful auxilliaries

Seneka - Kermes mineral, and the different preparations of squills are commonly used for this purpose.

After the violent symptoms have subsided, a few drops of laudanum, may have a salutary effect. - Garlic or onion tea sweetened with honey, may be used as a common drink.

An anonymous french writer speaks in extravigant terms of the utility of the lime of sulphur, in Cynanche tracheali. To a child of three years, he gives from six to ten grains in the morning, and a similar quantity in the evening. He directs that the practitioner should only use that which has been recently made, and which has been preserved in a corked phial. - I have never had an opportunity of testing the efficacy of this remedy, still from the confidence with which its is recommended, I think it worthy at least of a trial.

Before closing my imperfect essay, I cannot refrain from tendering my heart felt thanks to the distinguished professor of this University, for the signal advantages

which I have derived from them in their several branches.— That their future lives may be as prosperous and happy, as their past has been useful is the sincere wish of them

Obliged Serv.t.
The Author